

PATENT SPECIFICATION



Application Date: Aug. 26, 1943. No. 13960/43.

568,585

Complete Specification Left: Sept. 10, 1943.

Complete Specification Accepted: April 11, 1945.

PROVISIONAL SPECIFICATION

Improvements in and relating to Safety Razors and Safety Razor Blades

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SPECIFICATION No. 568,585.

je- Page 4, line 94, for " arching " read
 po " arching "
 10 de . Page 4, line 96, for " holdere " read
 as " holder "
 fle- Page 5, line 119, for " in " read " on "
 tra Page 6, line 75, for " alternately " read
 15 th: " alternately "
 pr- Page 7, line 8, for " intial " read
 th " initial "
 of Page 8, line 10, for " 23 " read " 24 "
 20 r THE PATENT OFFICE,
 25th June, 1945.

feature of the present invention the im-
 proved blade is provided with oppositely
 25 sloping resilient wings for yieldingly
 supporting the blade in a holder, these
 wings being secured to the blade and pro-
 viding fulcra for arching the blade rela-
 tively to the wings when the blade is so
 30 supported. Preferably each wing is in
 the form of a continuous strip and the
 strips are arranged to diverge away from
 the blade, the strips having their free
 longitudinal edges in parallelism; and
 35 these edges may be spaced apart by a dis-
 tance equal to a major part of the width
 of the blade and lateral location of the
 blade thus facilitated.

The wings also have the advantage of
 40 stiffening the thin flexible blade along the
 lines of attachment of the wings to it and
 this stiffening of the thin blade is
 especially advantageous where the blade
 is provided with a medial longitudinal
 45 slot extending over the whole or substan-
 tially the whole of the length of the
 cutting edges of the blade, for the cutting
 edge carrying portions on each side of
 the slot of such blade can be very con-
 50 veniently arched in a holder without being
 transversely flexed and the aforesaid
 stiffening assists in keeping the cutting

tudinal edges of the wings to guide the 75
 blade in its movement. However the blade
 may be constructed for use in many
 ordinary holders.

The wings further have the effect of
 increasing the resistance to arching of the 80
 blade between the blade arching members
 of the holder, which is especially advan-
 tageous where the blade is slotted as afore-
 said. The blade arching members, e.g.,
 the cap and guard, may be slightly separ- 85
 ated and edge exposure of the blade thus
 increased without substantially reducing
 the pressure between the blade and the
 said members and therefore the main-
 90 tenance of the parts in the set position for
 the edge exposure required is promoted.

The wings are preferably so constructed
 and arranged as to bow transversely to-
 wards the blade and make an increasing
 area of contact with the blade when the 95
 edges of the wings are held against dis-
 placement and the blade is transversely
 arched. In this way diverging wings,
 which may be initially flat or slightly
 100 bowed in the required direction, as de-
 sired, thus come into increasing contact
 with the blade towards the cutting edges
 the fulcrum on each side of the blade
 shifting outwards, as the wings become

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PROVISIONAL SPECIFICATION

Improvements in and relating to Safety Razors and Safety Razor Blades

(Communicated by GILLETTE SAFETY RAZOR COMPANY, a corporation of Delaware, United States of America, with offices at 15, West First Street, Boston, Massachusetts, United States of America).

I, HENRY CONRAD HEIDE, a British subject, of 2, Broad Street Buildings, Liverpool Street, London, E.C.2, do hereby declare the nature of this invention to be as follows:—

The present invention relates to thin flexible safety razor blades adapted to be transversely arched in use and to holders therefor.

One of the objects of the invention is to provide a blade which can be arched in the holder and adjusted within the limits of exposure required against increased resistance and without flexing it over hard fulcrum which is liable to lead to blade breakage, and according to the main feature of the present invention the improved blade is provided with oppositely sloping resilient wings for yieldingly supporting the blade in a holder, these wings being secured to the blade and providing fulcrum for arching the blade relatively to the wings when the blade is so supported. Preferably each wing is in the form of a continuous strip and the strips are arranged to diverge away from the blade, the strips having their free longitudinal edges in parallelism; and these edges may be spaced apart by a distance equal to a major part of the width of the blade and lateral location of the blade thus facilitated.

The wings also have the advantage of stiffening the thin flexible blade along the lines of attachment of the wings to it and this stiffening of the thin blade is especially advantageous where the blade is provided with a medial longitudinal slot extending over the whole or substantially the whole of the length of the cutting edges of the blade, for the cutting edge carrying portions on each side of the slot of such blade can be very conveniently arched in a holder without being transversely flexed and the aforesaid stiffening assists in keeping the cutting

edges straight and prevents undesirable distortion of the said portions which may lead to blade breakage. This stiffening near the longitudinal axis of the blade is especially advantageous with the slotted blade.

Another feature of the invention is the combination with the improved blade of a holder constructed with abutments for the free edges of the wings so arranged as to support the blade in a position to be fulcrummed about the wings while the blade remains yieldingly supported thereby, e.g., spaced longitudinal ribs on the appropriate one of the blade clamping members may be used, or this member may have one or more channels, side walls of which form the abutments referred to. The abutment walls may be undercut. The blade may be slid endwise into position using the co-operation between the ribs or channels and the free longitudinal edges of the wings to guide the blade in its movement. However the blade may be constructed for use in many ordinary holders.

The wings further have the effect of increasing the resistance to arching of the blade between the blade arching members of the holder, which is especially advantageous where the blade is slotted as aforesaid. The blade arching members, e.g., the cap and guard, may be slightly separated and edge exposure of the blade thus increased without substantially reducing the pressure between the blade and the said members and therefore the maintenance of the parts in the set position for the edge exposure required is promoted.

The wings are preferably so constructed and arranged as to bow transversely towards the blade and make an increasing area of contact with the blade when the edges of the wings are held against displacement and the blade is transversely arched. In this way diverging wings, which may be initially flat or slightly bowed in the required direction, as desired, thus come into increasing contact with the blade towards the cutting edges the fulcrum on each side of the blade shifting outwards, as the wings become

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flattened, against the blade and the load therefore being distributed over a greater and wider area as the load is increased. This action of the flexible fulcrum tends further to reduce blade breakage.

The longitudinal medial portion of the blade, especially the medial end portions of the slotted blade, may be softer than the portions carrying the cutting edges, to reduce blade breakage when the blades are arched, but it is an advantage of the improved blade that the said end portions of the blade may be left with a harder temper without increasing the risk of breakage, and this reduces danger of unduly drawing the temper of the cutting edges in the process of softening the ends.

The wings may be separate pieces attached to the blade, but they are preferably joined, e.g., made in one piece and they may be doubled back along adjacent margins to embrace the blade adjacent each long edge of the slot, or where the blade has two or more apertures in lieu of a continuous slot the wings may have lips or projections which are doubled over the edges of the apertures to embrace the blade. In either case the connecting portions between the wings may be secured to the unslotted medial portions of the blade to stiffen such portions.

While the wings may be constructed of any suitable hard resilient sheet material, a desirable feature of my invention consists in resilient sheet steel wings which are softer and flex more easily than the steel of the blade itself, i.e., the temper of the wings may be selected with a view to maximum toughness and flexibility without the limiting conditions of hardness of the cutting edge portions of the blade itself.

Since the blade provides self-contained fulcrums about which the body portion may be transversely arched in use without bearing on the guard, the function of the guard may therefore be reduced to that of supporting the wings and holding the skin at a definite distance from the blade edge and control of the blade edge exposure is facilitated.

Two forms of blade and a form of holder according to this invention are illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a view in perspective on an enlarged scale of the blade as seen from below, with a section broken out to show the sectional shape of the parts;

Fig. 2 is a similar view showing a blade of modified construction;

Fig. 3 is a view in perspective, on the same enlarged scale, of the safety razor having a section broken out to show a blade clamped in shaving position; and

Fig. 4 is a similar view showing the blade in the process of presentation to the guard or blade-supporting member of the razor, a portion being broken away to show the sectional shape of the parts.

The blade illustrated in Fig. 1 is shown as having the contour of a well-known commercial blade and comprising a generally rectangular body 10 of thin resilient sheet steel from .007" to .004" in thickness. The blade is herein shown as having corner notches defining transversely elongated unsharpened end portions 11 of less width than the body of the blade and as being sharpened in its longitudinal edges 12. As already explained, the body of the blade is hardened and tempered to a degree providing the best possible edge-holding qualities in the cutting edges of the blade and it is annealed in its end portions to facilitate bending without breakage. As herein shown it is normally flat and it is provided with a centrally disposed longitudinal slot 13 which has the effect of concentrating the bending stresses of the blade in its softer end portions 11.

To form a unit with the blade, I affix a supplemental member herein shown as comprising a thin sheet metal attachment, corresponding in length to the blade, and preferably but not necessarily having end portions 14 extending flush with the end portions of the blade. The member has connected side portions 15 herein termed wings and a longitudinal opening or slot which corresponds substantially in outline to the shape of the slot 13 in the body of the blade. In the embodiment therein shown, though not necessarily, the supplemental member is provided with attaching flanges 17 which extend through the slot 13 in the body of the blade and are folded or crimped on the opposite face of the blade about the margins of the slot. The flanges of the supplemental member thus make close and intimate contact throughout their entire area with one face of the blade 10, while the side portions 15 diverge from each other and from the other surface of the blade at acute angles and thus provide oblique or inclined strips or narrow plates, disposed in parallel longitudinal relation, terminating in free outer edges spaced from the body of the blade and free to yield and flatten towards the blade when the blade as a whole is subjected to clamping pressure between the parts of the safety razor.

As already stated the supplemental member may be formed of any suitable resilient sheet material, for example, from the synthetic plastics now available or it may be formed of non-ferrous metal,

such as bronze, or of sheet steel. In any case the supplemental member serves to reinforce the flexible body 10 of the blade in a central zone along the margins of its longitudinal slot both against longitudinal and against transverse flexing. As the blade as a whole is subjected to clamping pressure the diverging side portions 15 of the supplemental member are forced into more and more extended contact with the under face of the blade and the reinforcing effect of the supplemental member is thereby increased and extended more effectively toward the cutting edges of the blade. When the supplemental member is constructed of steel it may be attached in any suitable manner to the body of the blade, as by spot welding along the margins of the slot and across the end portions of the blade. In such case it need not be folded or crimped over the opposite face of the blade.

The supplemental member serves to locate the blade in the safety razor through the medium of the wings 15 which are herein shown as shaped to make interlocking abutting engagement with shoulders of the guard of the safety razor and which thus afford locating or gauging edges disposed in proximity to the cutting edges of the blade. These and other functions of the supplemental member will be discussed and further explained in connection with the safety razor head shown in Figs. 3 and 4.

In Fig. 2 is shown a double-edge blade embodying my invention in somewhat modified construction. This blade has a body portion 20 of thin flexible steel and longitudinal cutting edges 22. The blade has unsharpened transversely elongated end portions 21 similar to those of the blade shown in Fig. 1. Instead of a single longitudinal slot, however, this blade is provided with a row of three longitudinal slots 23 arranged in alignment with the major axis of the blade, although the number and arrangement of the slots is of secondary importance. The supplemental member herein shown is of thin flexible metal corresponding in length to the body 20 of the blade. It is provided with slots coinciding in length and location with the slots 23 of the blade. The supplemental member has connected wings 25 diverging symmetrically away from the under face of the blade. Upon one side of each slot 23 in the blade the supplemental member is provided with an attaching flange 26 which extends through the slot and is folded or crimped over upon the upper surface of the blade. The attaching flanges 26 of the supplemental member are arranged alternately upon opposite sides of the respective slots

23, that is, the two end flanges 26 extend over say the left-hand edge of the two end slots 23 while the medial attaching flange extends over the right-hand edge of the center slot. The outer edges of the wings 25 present straight edges by which the blade may be conveniently located in the razor.

In Figs. 3 and 4 there is illustrated one form of safety razor adapted particularly to receive the blade shown in Figs. 1 and 2. The razor comprises a handle 30, a cap 32 and a blade-supporting or guard member 31, to which the handle may be rotatably or detachably connected as preferred. The guard 31 is provided at its opposite edges with guard bars 33 and in its upper face with parallel undercut longitudinal shoulders or ribs 34 which act to confine the free edges of the supplemental member and which provide between them open channels for the reception of the sloping wings 15. The cap has a concave inner face with projecting corner lugs shaped to pass freely into the corner notches of the blade.

Fig. 4 suggests the manner in which the blade may be presented in shaving position upon the guard 31. In this operation the free long edges of the wings 15 of the supplemental member are entered in the annular channels formed by the ribs 34 and the blade as a whole is pushed endwise inwardly, if desired up to a marked position or end stop, until it registers symmetrically with the guard. In this operation the outer edges of the side portions 15 of the supplemental member travel in the channels thus provided in the guard of the safety razor, locating the blade transversely with great accuracy and holding it yieldingly in the position shown in Fig. 4, that is to say, with the body of the blade suspended above the level of the ribs 34 of the guard. The cap 32 is now presented and its stem passed through a central aperture of the guard and threaded into the upper end of the handle 30. By rotating the handle the cap 32 is drawn down into clamping relation with the guard. In this operation the blade is transversely flexed by the concave face of the cap and the flexible wings 15 of the supplemental member are flexed and roll outwardly into engagement with an increased area of the underface of the blade. The outer edges of these flexible wings 15 are, of course held rigidly, thus maintaining the blade at all times accurately and in shaving position. When the cap 32 is released the wings 15 immediately spring back into their initial position and again support the blade in flat condition above the ribs 34 where it may be conveniently flushed in

cleaning the razor with both surfaces freely exposed.

It will be noted that the cap of the razor herein shown has no blade-positioning function. Its sole purpose is that of blade flexing. Therefore, the cap may be located in the razor in relation to the guard and the blade in any suitable manner known to the art, for example,

by corner lugs co-operating with corner recesses or notches in the blade; or by being pivoted to the guard, or other part of the head.

Dated this 26th day of August, 1943.

HYDE & HEIDE,

2, Broad Street Buildings,
Liverpool Street, London, E.C.2,
Patent Agents for the Applicant.

COMPLETE SPECIFICATION

Improvements in and relating to Safety Razors and Safety Razor Blades

(Communicated by GILLETTE SAFETY RAZOR COMPANY, a corporation of Delaware, United States of America, with offices at 15, West First Street, Boston, Massachusetts, United States of America).

I, HENRY CONRAD HEIDE, a British Subject, of 2, Broad Street Buildings, Liverpool Street, London, E.C.2, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to thin flexible safety razor blades adapted to be transversely arched in use and to holders therefor.

One of the objects of the invention is to provide a blade which can be arched in the holder and adjusted within the limits of exposure required against increased resistance and without flexing it over hard fulcra which is liable to lead to blade breakage, and according to the main feature of the present invention the improved blade is provided with oppositely sloping resilient wings for yieldingly supporting the blade in a holder, these wings providing yielding fulcra for the blade while it is being arched. The wings are preferably an attachment or attachments to the blade. Preferably each wing is in the form of a continuous strip, and the strips are arranged to diverge away from the blade, the strips having their free longitudinal edges in parallelism; and these edges may be spaced apart by a distance equal to a major part of the width of the blade and lateral location of the blade thus facilitated.

The wings also have the advantage of stiffening the thin flexible blade along the lines of attachment of the wings to it and this stiffening of the thin blade is especially advantageous where the blade is provided with a medial longitudinal slot extending over the whole or substan-

tially the whole of the length of the cutting edges of the blade, for when the blade is arched in a holder the aforesaid stiffening assists in keeping the cutting edges straight and minimises transverse bending of the cutting edge carrying portions on each side of the slot. This stiffening near the longitudinal axis of the blade is especially advantageous with the slotted blade.

Another feature of the invention is the combination with the improved blade of a holder constructed with abutments for the free edges of the wings so arranged as to support the blade in a position to be fulcrummed about the wings while the blade remains yieldingly supported thereby, e.g., spaced longitudinal ribs on the appropriate one of the blade clamping members may be used, or this member may have one or more channels, side walls of which form the abutments referred to. The abutment walls may be undercut. The blade may be slidden endwise into position using the co-operation between the ribs or channels and the free longitudinal edges of the wings to guide the blade in its movement. However the blade may be constructed for use in many ordinary holders.

The wings further have the effect of increasing the resistance to arching of the blade between the blade arching members of the holder, which is especially advantageous where the blade is slotted as aforesaid. The blade arching members, e.g., the cap and guard, may be slightly separated and edge exposure of the blade thus increased without substantially reducing the pressure between the blade and the said members and therefore the maintenance of the parts in the set position for the edge exposure required is promoted.

The wings are preferably so constructed and arranged as to bow transversely towards the blade and make an increasing area of contact with the blade when the edges of the wings are held against dis-

placement and the blade is transversely arched. In this way diverging wings, which may be initially flat or slightly bowed in the required direction, as desired, thus come into increasing contact with the blade towards the cutting edges the fulcrum on each side of the blade shifting outwards, as the wings become flattened against the blade and the load therefore being distributed over a greater and wider area as the load is increased. This action of the flexible fulcrum tends further to reduce blade breakage.

The longitudinal medial portion of the blade, especially the medial end portions of the slotted blade, may be softer than the portions carrying the cutting edges, to reduce blade breakage when the blades are arched, but it is an advantage of the improved blade that the said end portions of the blade may be left with a harder temper without increasing the risk of breakage, and this reduces danger of unduly drawing the temper of the cutting edges in the process of softening the ends.

The wings may be separate pieces attached to the blade, but they are preferably joined e.g. made in one piece and they may be doubled back along adjacent margins to embrace the blade adjacent each long edge of the slot, or where the blade has two or more apertures in lieu of a continuous slot the wings may have lips or projections which are doubled over the edges of the apertures to embrace the blade. In either case the connecting portions between the wings may be secured to the unslotted medial portions of the blade to stiffen such portions.

While the wings may be constructed of any suitable hard resilient sheet material, a desirable feature of my invention consists in resilient sheet steel wings which are softer and flex more easily than the steel of the blade itself, i.e., the temper of the wings may be selected with a view to maximum toughness and flexibility without the limiting conditions of hardness of the cutting edge portions of the blade itself.

Since the blade provides self-contained fulcrums about which the body portion may be transversely arched in use without bearing on the guard, the function of the guard may therefore be reduced to that of supporting the wings and holding the skin at a definite distance from the blade edge and control of the blade edge exposure is facilitated.

Two forms of blade and a form of holder according to this invention are illustrated by way of example in the drawings accompanying the provisional specification, in which:

Fig. 1 is a view in perspective on an enlarged scale of the blade as seen from below, with a section broken out to show the sectional shape of the parts;

Fig. 2 is a similar view showing a blade of modified construction;

Fig. 3 is a view in perspective, on the same enlarged scale, of the safety razor having a section broken out to show a blade clamped in shaving position; and

Fig. 4 is a similar view showing the blade in the process of presentation to the guard or blade supporting member of the razor, a portion being broken away to show the sectional shape of the parts.

The blade illustrated in Fig. 1 is shown as having the contour of a well-known commercial blade and comprising a generally rectangular body 10 of thin resilient sheet steel from .007" to .004" in thickness. The blade is herein shown as having corner notches defining transversely elongated unsharpened end portions 11 of less width than the body of the blade and as being sharpened in its longitudinal edges 12. As already explained, the body of the blade is hardened and tempered to a degree providing the best possible edge-holding qualities in the cutting edges of the blade and it is annealed in its end portions to facilitate bending without breakage. As herein shown it is normally flat and it is provided with a centrally disposed longitudinal slot 13 which has the effect of concentrating the bending stresses of the blade in its softer end portions 11.

To form a unit with the blade, I affix a supplemental member herein shown as comprising a thin sheet metal attachment, corresponding in length to the blade, and preferably but not necessarily having end portions 14 extending flush with the end portions of the blade. The member has connected side portions 15 herein termed wings and a longitudinal opening or slot which corresponds substantially in outline to the shape of the slot 13 in the body of the blade. In the embodiment therein shown, though not necessarily, the supplemental member is provided with attaching flanges 17 which extend through the slot 13 in the body of the blade and are folded or crimped in the opposite face of the blade about the margins of the slot. The flanges of the supplemental member thus make close and intimate contact throughout their entire area with one face of the blade 10, while the side portions 15 diverge from each other and from the other surface of the blade at acute angles and thus provide oblique or inclined strips or narrow plates, disposed in parallel longitudinal relation, terminating in free outer edges spaced

from the body of the blade and free to yield and flatten towards the blade when the blade as a whole is subjected to clamping pressure between the parts of the safety razor.

As already stated the supplemental member may be formed of any suitable resilient sheet material, for example, from the synthetic plastics now available or it may be formed of non-ferrous metal, such as bronze, or of sheet steel. In any case the supplemental member serves to reinforce the flexible body 10 of the blade in a central zone along the margins of its longitudinal slot both against longitudinal and against transverse flexing. As the blade as a whole is subjected to clamping pressure the diverging side portions 15 of the supplemental member are forced into more and more extended contact with the under face of the blade and the reinforcing effect of the supplemental member is thereby increased and extended more effectively toward the cutting edges of the blade. When the supplemental member is constructed of steel it may be attached in any suitable manner to the body of the blade, as by spot welding along the margins of the slot and across the end portions of the blade. In such case it need not be folded or crimped over the opposite face of the blade.

The supplemental member serves to locate the blade in the safety razor through the medium of the wings 15 which are herein shown as shaped to make interlocking abutting engagement with shoulders of the guard of the safety razor and which thus afford locating or gauging edges disposed in proximity to the cutting edges of the blade. These and other functions of the supplemental member will be discussed and further explained in connection with the safety razor head shown in Figs. 3 and 4.

In Fig. 2 is shown a double-edge blade embodying my invention in somewhat modified construction. This blade has a body portion 20 of thin flexible steel and longitudinal cutting edges 22. The blade has unsharpened transversely elongated end portions 21 similar to those of the blade shown in Fig. 1. Instead of a single longitudinal slot, however, this blade is provided with a row of three longitudinal slots 23 arranged in alignment with the major axis of the blade, although the member and arrangement of the slots is of secondary importance. The supplemental member herein shown is of thin flexible metal corresponding in length to the body 20 of the blade. It is provided with slots coinciding in length and location with the slots 23 of the blade. The supplemental member has

connected wings 25 diverging symmetrically away from the under face of the blade. Upon one side of each slot 23 in the blade the supplemental member is provided with an attaching flange 26 which extends through the slot and is folded or crimped over the upper surface of the blade. The attaching flanges 26 of the supplemental member are arranged alternately upon opposite sides of the respective slots 23, that is, the two end flanges 26 extend over say the left-hand edge of the two end slots 23 while the medial attaching flange extends over the right-hand edge of the centre slot. The outer edges of the wings 25 present straight edges by which the blade may be conveniently located in the razor.

In Figs. 3 and 4 there is illustrated one form of safety razor adapted particularly to receive the blade shown in Figs. 1 and 2. The razor comprises a handle 30, a cap 32 and a blade-supporting or guard member 31, to which the handle may be rotatably or detachably connected as preferred. The guard 31 is provided at its opposite edges with guard bars 33 and in its upper face with parallel under-cut longitudinal shoulders or ribs 34 which act to confine the free edges of the supplemental member and which provide between them open channels for the reception of the sloping wings 15. The cap has a concave inner face with projecting corner lugs shaped to pass freely into the corner notches of the blade.

Fig. 4 suggests the manner in which the blade may be presented in shaving position upon the guard 31. In this operation the free long edges of the wings 15 of the supplemental member are entered in the angular channels formed by the ribs 34 and the blade as a whole is pushed endwise inwardly, if desired up to a marked position or end stop, until it registers symmetrically with the guard.

In this operation the outer edges of the side portions 15 of the supplemental member travel in the channels thus provided in the guard of the safety razor, locating the blade transversely with great accuracy and holding it yielding in the position shown in Fig. 4, that is to say, with the body of the blade suspended above the level of the ribs 34 of the guard. The cap 32 is now presented and its stem passed through a central aperture of the guard and threaded into the upper end of the handle 30. By rotating the handle the cap 32 is drawn down into clamping relation with the guard. In this operation the blade is transversely flexed by the concave face of the cap and the flexible wings 15 of the supplementary member are flexed and roll outwardly into en-

gagement with an increased area of the underface of the blade. The outer edges of these flexible wings 15 are, of course held rigidly thus maintaining the blade at all times accurately and in shaving position. When the cap 32 is released the wings 15 immediately spring back into their initial position and again support the blade in flat condition above the ribs 34 where it may be conveniently flushed in cleaning the razor with both surfaces freely exposed.

It will be noted that the cap of the razor herein shown has no blade-position function. Its sole purpose is that of blade flexing. Therefore, the cap may be located in the razor in relation to the guard and the blade in any suitable manner known to the art, for example, by corner lugs co-operating with corner recesses or notches in the blade; or by being pivoted to the guard, or other part of the head.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A thin flexible safety razor blade which is adapted to be transversely arched in use, having oppositely sloping resilient wings for yieldingly supporting the blade in a holder, these wings providing yielding fulcra for the blade while it is being arched.

2. A thin flexible safety razor blade as in claim 1, in which the wings are an attachment or attachments to the blade.

3. A safety razor blade as in claim 1 or 2, in which the wings diverge away from the blade.

4. A safety razor blade according to claim 1, 2 or 3, in which the blade is medially longitudinally slotted over the whole or substantially the whole length of the cutting edge.

5. A safety razor blade according to any preceding claim 2 to 4, in which the blade is medially apertured and the wings are doubled back along one margin to embrace the longitudinal edge of the aperture.

6. A safety razor blade as in any preceding claim, in which the wings are so constructed and arranged as to bow transversely towards and make an increasing area of contact with the blade when the edges of the wings are held against displacement and the blade is transversely arched.

7. A safety razor blade according to any preceding claim 2 to 6, in which the wings are joined prior to affixing to the blade.

8. A safety razor blade as in claim 7,

in which the wings are formed in one piece.

9. A safety razor blade as in any preceding claim 4 to 8, in which the wings are part of a medially longitudinally slotted member the wing connecting portions at each end of the slot being secured to and reinforcing the medial end portions of the slotted blade.

10. A safety razor blade as in claims 2 or 3 or 5 to 9, in which the blade has two or more medial apertures and the wings have spaced lips which are folded back through the aperture to embrace an edge of the aperture.

11. A safety razor blade according to any preceding claim, having flat sloping wings.

12. A safety razor blade according to any preceding claim 1 to 10, in which the wings are initially bowed transversely.

13. A safety razor blade according to any preceding claim 2 to 12, in which the wings are capable of flexing transversely more readily than the body of the blade.

14. A safety razor blade according to claim 13, in which the wings are of steel of softer temper than that of the body of the blade.

15. A safety razor blade according to any preceding claim 2 to 14, in which the wings are so constructed and arranged as to stiffen the blade medially along the whole length thereof.

16. A safety razor blade according to any preceding claim, in which the medial portions of the body of the blade are softer than the edge-bearing portions.

17. A safety razor blade according to any preceding claim 2 to 16, in which the wings are in the form of continuous strips with the free longitudinal edges in parallelism.

18. A thin flexible blade according to any preceding claim, and a holder therefor having blade arching members, one of which is provided with abutments for the free edges of the wings so arranged as to support the blade in a position to be full-crummed about the wings while the blade remains yieldingly supported thereby.

19. A safety razor blade and holder as in claim 18, in which the abutments are formed by the side walls of a channel or channels in one of the blade arching members.

20. A safety razor blade and holder as in claim 18 or 19, in which the abutments are formed by spaced longitudinal ribs.

21. A safety razor blade and holder as in any preceding claim 18 to 20, in which the abutment walls are undercut.

22. A thin flexible safety razor blade

substantially as herein described with reference to Fig. 1 of the drawings accompanying the Provisional Specification.

- 5 23. A thin flexible safety razor blade substantially as herein described with reference to Fig. 2 of the drawings accompanying the Provisional Specification.

23. A safety razor substantially as 10 described with reference to Figs. 3 and 4 of the drawings accompanying the Provisional Specification.

Dated this 10th day of September, 1943.

HYDE & HEIDE,
2, Broad Street Buildings,
Liverpool Street, London, E.C.2,
Patent Agents for the Applicant.

Leamington Spa: Printed for His Majesty's Stationery Office, by the Courier Press.—1945.

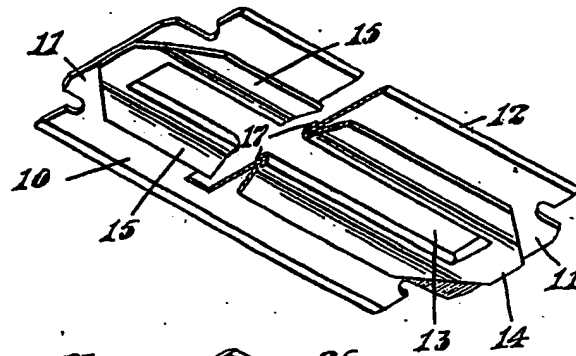


Fig. 1.

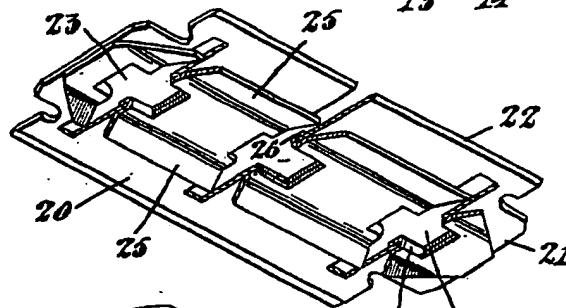


Fig. 2.

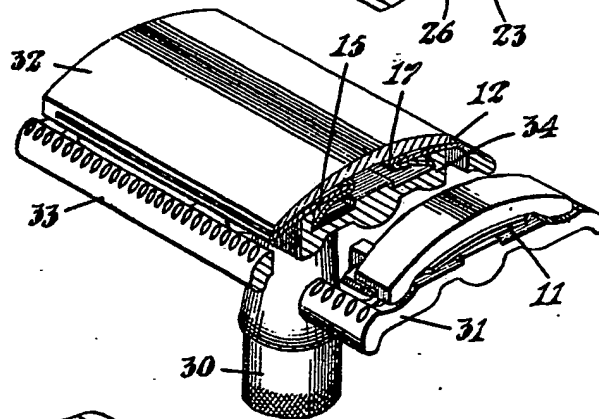


Fig. 3.

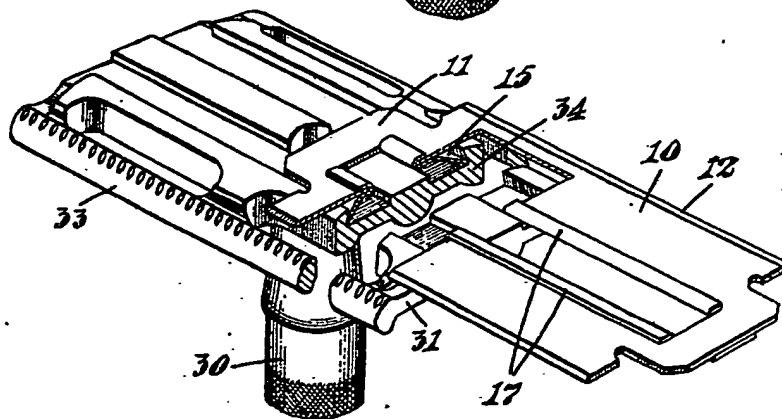


Fig. 4.

[This Drawing is a reproduction of the Original on a reduced scale.]